



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/730,906	12/06/2000	Christophe Molko	MATR-0003-US	3464

7590 06/09/2004

Dan C. Hu
TROP, PRUNER & HU, P.C.
Ste. 100
8554 Katy Freeway
Houston, TX 77024

EXAMINER

TRAN, THIEN D

ART UNIT	PAPER NUMBER
----------	--------------

2665

DATE MAILED: 06/09/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/730,906

Applicant(s)

MOLKO, CHRISTOPHE 

Examiner

Thien D Tran

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bottomley et al (U.S Patent No. 5,909,465) in the view of Pickert et al (U.S Patent No. 5,212,715).

Regarding claims 1, 3, 9, Bottomley discloses a time-division multiplex radio communication method, wherein a transmitter transmits radio signal bursts destined for at least one receiver in time slots allocated to a channel on a carrier frequency, wherein the radio signal of each burst consists of a block of digital symbols including training patterns 11 and 13 in figure 2 or 172 and 173 in figure 5 (training symbols) provided for an estimation of demodulation parameters by the receiver and information symbols to be estimated by the receiver by a demodulation using the estimated parameters, col.5 lines 23-31 and col.8 lines 50-60, wherein the training symbols comprise a first sequence of symbols 11 or 172 placed at the start of the block from which each radio signal burst 12 or 171 is formed and a second sequence of symbols 13 or 173 placed at the end of said block, and wherein the receiver receiving a signal segment corresponding to a burst formed from a symbol block executes the steps of:

estimating first demodulation parameters in forward direction on the basis of the training pattern 11 or 171 (first sequence of training symbols) and the start of the signal segment;

calculating first estimations of the information symbols of said block on the basis of the first demodulation parameters and the signal segment scanned from start to end, col.8 lines 55-65;

estimation of second demodulation parameters in backward direction on the basis of the training pattern 13 or 173 (second sequence of training symbols) and the end of the signal segment; and

calculation of second estimations of the information symbols of said block on the basis of the second demodulation parameters and the signal segment scanned from end to start, col.8 lines 35-65.

Bottomley does not disclose a power ramp (rising in the first portion and falling in the second portion of the training symbols) for covering different portions of a signal block with different power levels. Pickert discloses power ramp up and down used for different fields of a transmission frame, col.3 lines 15-30. Therefore, it would have been obvious to one having ordinary skill in the art to have the power ramp covering different portions of the signal block with different power levels so that interferences between portions of the signal block can be reduced.

Regarding claims 2, 10, Bottomley discloses the first and second sequences of training symbols are distinct, figure 5.

Regarding claims 4, 11, Bottomley discloses that the radio signal transmitted in the initial portion of a burst before the first sequence of training symbols and the radio signal transmitted in the final portion of the burst after the second sequence of training symbols are signals resulting from baseband signals having a estimation for demodulating (constant phase), col.8 line 60-65.

Regarding claims 5, 12, Bottomley discloses that the data modulated signal (from transmitter or modulator) selects at least one of the first and second sequences of training symbols, inserted in the block from which each radio signal burst is formed, from a set of several predetermined sequences on the basis of signalling information to be transmitted to the receiver, figure 2a, col.6 lines 38-50.

Regarding claims 6, 13, Bottomley discloses that channel supports a plurality of logical channels, and wherein the signalling information on the basis of which the sequence of training symbols or pilot symbols is selected indicates the channel estimation (logical channel) to which the burst pertains, col.11 lines 60-67.

Regarding claims 7, 14, Bottomley discloses that each radio signal burst is formed according to a modulation selected from a plurality of possible modulations, and wherein the signalling information on the basis of which the sequence of training symbols is selected indicates the modulation according to which the burst is formed, col.11 lines 5-15.

Regarding claim 8, 15, Bottomley discloses that plurality of possible modulations comprises a coded modulation and a non-coded modulation, col.11 lines 5-10, figure 1.

Art Unit: 2665

Conclusion

3. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thien Tran whose telephone number is (703) 308-4388. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Thien Tran



STEVEN NGUYEN
PRIMARY EXAMINER